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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,527	12/29/2003	David Anderman	019524-000420US	8528

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EXAMINER	
COLLINS, TIMOTHY D	
ART UNIT	**PAPER NUMBER**
3643	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,527	ANDERMAN ET AL.	
	Examiner	Art Unit	
	Timothy D. Collins	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *rce of 11/14/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/24/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimer filed on 10/16/06 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6,669,148 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 30-36 are rejected under 35 U.S.C. 102(b) as being anticipated by the Soviet MIR spacecraft and specifically the "Kvant" module (hereinafter referred to as Kvant) on the MIR space station, as seen at http://russianspaceweb.com/mir_kvant.html, and for a prospective to show the position of Kvant on MIR see http://www.spaceflight.nasa.gov/history/shuttle-mir/multimedia/diagrams/shut-mir.jpg.

Re claim 30, Kvant can be seen to be a supply canister "usable in orbit" with an internal space "for containing" supply material because it is a module that would carry x-ray and ultraviolet observation equipment as seen in the first paragraph of the

description in the reference. Also the module had space for humans to move through bringing cargo from the progress cargo ships that attach to the end of Kvant and therefore it was capable of containing material and therefore "for containing supply material". Kvant had at least two docking ports to allow for simultaneous docking of two docking elements. The Kvant also obtaining stability and propulsion from the docking elements because the progress ship can supply propulsion and orbital stability and the MIR core module providing orbital stability and propulsion through the Soyuz craft on the other end of MIR. Also as seen in the MIR and the Kvant the Kvant has two docking ports configured to allow the canister to be driven by one of the docking elements (the one with the progress on it in the figure) into position for docking to the other element (the one that is attached to the core module in the figure). Also Kvant shows that there are electrical interconnects for connecting the canister electrical system (the solar panels and observation equipment (inherently included)) with the electrical system of a docking element. It can be seen that the electrical connections with the other docking elements are connected to Kvant in the last paragraph of the description in the MIR reference where it is stated that "so many communications were drawn through the hatches between Core and Kvant-1 that they had become virtually inseparable". Also as seen in the figures the Kvant-1 module is "adapted" to be propelled by a propulsion system that is present in orbit independent of the launch of the supply canister in that it is "adapted" to be propelled by "a special space tug" which is talked about in the second to last paragraph of the http://russianspaceweb.com/mir_kvant.html reference and also as seen in http://www.spaceflight.nasa.gov/history/shuttle-

mir/multimedia/diagrams/shut-mir.jpg reference, the space shuttle attaches to the docking module of the Mir and provides propulsion for the entire craft and is independent of the launch of the supply canister.

Re claims 31 and 32, the limitations are taught by the configuration of Kvant since the module (70) can inherently be unpressurized (being pressurized requires certain structural qualifications while lack of pressurization does not; so a module that is taught to be pressurized is inherently a module that can be unpressurized if the mission so calls for). In the Kvant's case the device was pressurized most of the time because the cosmonauts traveled through the module without space suits on, however at the end of the MIR's life cycle, it was unpressurized at least as it broke up upon reentry of the Earth's atmosphere.

Re claim 33, Kvant is seen as being approximately cylindrical and is shaped to support pressurization without concentrated stress points because it is capable of pressurization in space.

Re claim 34, Kvant as seen in the figures is approximately cylindrical and the two docking ports include one at one axial location (the location by the Progress) and one at another opposite axial position (near the Core), as seen in the figures.

Re claim 35, Kvant can be seen to have a power subsystem for providing power in that there are solar panels as seen in the figures wherein the panels can be seen extending from the Kvant in the Z direction of the diagram of the MIR space station.

Re claim 36, Kvant discloses communications as seen in the rejection of claim 30 above in the communications wires that extend through the Kvant docking ports.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Soviet MIR spacecraft and specifically the "Kvant" module (hereinafter referred to as Kvant) on the MIR space station, as seen at http://russianspaceweb.com/mir_kvant.html, and for a prospective to show the position of Kvant on MIR see http://www.spaceflight.nasa.gov/history/shuttle-mir/multimedia/diagrams/shut-mir.jpg as in claims 30-36 above and further in view of USPN 5005786 to Okamoto et al.

Kvant discloses all of the limitations of claims 37 and 38 except for specifying that the docking ports have probes and cones for docking. However Okamoto discloses probes and cones as seen in figure 9 for the purpose of securely docking and providing electrical connections as well as damping between modules as seen in column 9 the last paragraph and column 10 the first through the third paragraphs and also in the brief description of the figure 9. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to make one of the ports on the module a cone port and the other a probe port since such a decision is a matter of

design choice and routine experimentation in the art. The disclosure of Okamoto is a broad teaching of the uses for the particular probe and cone apparatus and their specific layout is left to be dictated by the specific mission requirements, at which point the design is routine. As per the limitations of claim 38, Kvant shows the module connected to an intermediate space vehicle (Progress) at one end and a "space platform" (here, the Core of MIR) at the other. As discussed above with respect to claim 30, the module obtains at least orbital stability or propulsion from Progress. Also as seen in the figures the Kvant-1 module is "adapted" to be propelled by a propulsion system that is present in orbit independent of the launch of the supply canister in that it is "adapted" to be propelled by "a special space tug" which is talked about in the second to last paragraph of the http://russianspaceweb.com/mir_kvant.html reference and also as seen in http://www.spaceflight.nasa.gov/history/shuttle-mir/multimedia/diagrams/shut-mir.jpg reference, the space shuttle attaches to the docking module of the Mir and provides propulsion for the entire craft and is independent of the launch of the supply canister. This propulsion may be used for driving the supply canister by the docking elements to a position for docking with another device at the other end of the device when the progress ship is not attached.

Response to Arguments

1. Applicant's arguments filed 10/16/06 have been fully considered but they are not persuasive.

a. With respect to applicant's argument that the space shuttle would haul the device to space and therefore it is not separate from the canister at launch. The

examiner maintains that in the figure as seen and used in the above rejections the canister (Kvant-1) is not launched by the shuttle, it is a piece of the Mir which is then boosted in its orbit by the shuttle and therefore the shuttle is the propulsion system that is independent and it is adapted to move the Kvant-1 in that it is attached through the docking parts to Mir and then to the shuttle.

b. Re applicant's argument that Kvant-1 is heavy and will not carry much mass to orbit. The examiner maintains that the applicant has not claimed how much mass is carried or any other limitations that lead to this mass being claimed.

c. Re applicant's arguments that Kvant relies on a vehicle already in orbit. The examiner maintains that the applicant has not claimed positively any steps or methods that would limit the claim as it is being argued. The examiner maintains that a device may boost the Kvant-1 any time after it is in orbit and therefore there is NOT any time frame or steps that must be followed in order which have been claimed. The examiner suggests positively claiming steps and order and time frames as well as mass that is to be carried.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D. Collins whose telephone number is 571-272-6886. The examiner can normally be reached on M-F, 7:00-3:00, with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T.D.C. 2/1/07

Timothy D. Collins
Primary Examiner
Art Unit 3643